Instruction Sheet	Learning Guide #-1

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics –

- Application of pattern information and specifications
- Checking accuracy of pattern pieces, information and specifications in production process
- Production faults relating to pattern or pattern information and specifications
- OHS practices to prevent accidents and to eliminate risks to personal safety

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, **you will be able to –**

- Pattern information and specifications are applied to garment production
- Pattern pieces, information and specifications are checked for accuracy throughout garment production process
- Garment production faults relating to pattern or pattern information and specifications are identified and reported
- Pattern development performed in accordance with OHS practices members.

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 7.
3. Read the information written in the “Information Sheet 1”, “Information Sheet 2”, “Information Sheet 3”, and “Information Sheet 4”. Try to understand what are being discussed. Ask your teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-Check 1” in pages 29-30.
5. Ask your teacher to evaluate your work.
6. Do the “LAP Test” (if you are ready). Request your teacher to evaluate your performance and outputs. Your teacher will give you feedback and the evaluation

will be either satisfactory or unsatisfactory. If unsatisfactory, your teacher shall advice you on additional work. But if satisfactory you can proceed to next Learning Guide.

Information Sheet-1	Application of pattern information and specifications

Prior to leather garment pattern designing, observe the style (sketch/sample) carefully. Note down all the details; this should help you to know where to start. Practice ‘Style reading’ from magazine clippings of various types of garments. If possible draw a working sketch indicating details. Also note down the important points for construction. Observing the model is a very important step before beginning the construction. Observe the model carefully and make a detailed description of volume, type of collar, pleats, sleeves, details, topstitching, etc.

For Construction of pattern outline necessary basic block. Make necessary enlargements according to desired volume. Mark button placements, determine cross-over value. Outline lines corresponding to model: seams, yokes, pockets, pleats, etc. Assemble front and back with darts closed. Place pattern on the dummy. This will help to indicate if volumes are correct. Make changes if necessary. Place pattern on cutting table; construct collar, sleeve, pleats, lining, etc.

Notches are necessary when the model is being assembled. Their position varies according to the model. Some important places where notches are present

- Front, back & sleeve arm hole
- Collar: centre back , shoulder line & centre front
- Waistband: centre back, side & centre front
- Pleats: on the edge of pleat lines & on the interior pleat lines
- Beginning of darts
- Cross-over edges
- Hem width
- The middle of a seam if it is very long
- Pocket position
- Along assembly lines of two identical curves (one or several notches)
- Folding lines

Basic Blocks

The first step in pattern designing/development is the preparation of basic block, which is used for all pattern adaptations. The basic block is the representation of three-dimensional solid measurements of a mannequin (dummy) in a two dimensional (flat) form. Thus the basic block is the foundation pattern constructed to fit a specific figure. In the garment industry the blocks are constructed to a set of standard measurements for a particular size. It is used as a basis for interpreting a design and producing a finished pattern. The design shape may change dramatically but the basic fit of the pattern will conform to the size of the basic blocks. The basic block will vary from company to company depending on various factors.

Draft/Construction (Working Pattern)

This is developed from the basic block. The various styling details such as dart manipulation, types of seams, yokes, gathers, pleats, pockets etc. are planned in the draft. The construction is kept intact until the sample garment is finished.

Final (Sample) Pattern

This is the pattern developed from the working sketch. Here each section (panel) is traced and adapted to achieve the desired effect on shape and fit.

Seam allowances are added, marked and labeled with all the necessary information (Refer instructions). During sample preparation if any alteration is required, it is done for this pattern also. These patterns are usually cut in soft white paper or brown sheet.

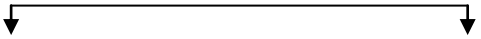
Production Pattern

This is the copy of the final pattern. This must be 100% accurate with all necessary information indicated on it. This production pattern is then sent for grading together with the sample to be graded in the required sizes.

Graded pattern

The graded pattern consists of copies of the production pattern in the required sizes (i.e. 50, 52, 54 etc.). Some firms prefer to have different colour codes for different sizes.

The following are common pattern information's written on each patter for production purpose:

- Style/ Item e.g. Blouse
- The name of each pattern piece e.g. Front panel
- The number of pieces to be cut e.g. cut 2X
- Style no. e.g. BL 001-2004
- Size e.g. 36
- Fold line e.g. 
- Grain line e.g. 

- Notch e.g. V- or U- mark on the edge of the pattern to show like seam and hem allowance, dart legs, for fitting of long seam etc.
- Drill mark/punch hole e.g. to show pocket position, dart endings, button hole position, etc
- CB or CF

See Annex 1: A pattern with complete pattern markings

Annex 2: A pattern with complete pattern markings and information

Self-Check -2	Written Test

Directions: Answer all the questions listed below.

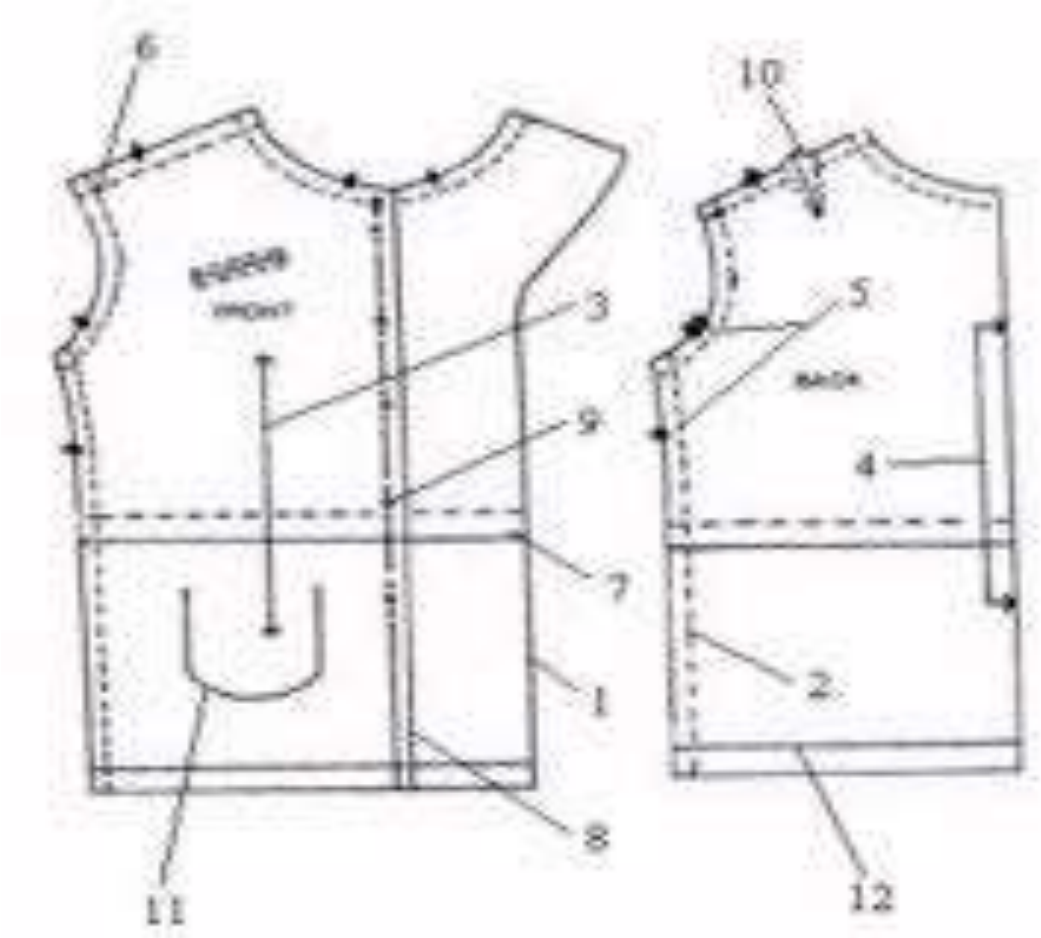
1. Draw grain line.
2. Draw shape of notch.
3. What is the use of drill mark or punch hole
4. Write the name of each pattern piece.

Information Sheet-2	Checking accuracy of pattern pieces, information and specifications in production process

In the process of pattern making, pattern maker is considered to be a very important person next to the designer. A good pattern maker must be aware of different types of finished leathers and their suitability in making different types of leather garments. He must be well versed with the techniques of fabrication and types of constructions. He must have the essential knowledge in elementary mathematics, measurements and use of geometrical instruments for drawing geometrical shapes viz. square, rectangle, circle, etc. and other odd shapes. He must be aware of different types of fittings, linings, reinforcements and other miscellaneous items, which are used in leather garments making. The pattern maker must give in each pattern the following details, which would help the cutter in the subsequent process of cutting to cut components easily and swiftly.

- The name of the style/product number
- Pattern size
- The name of each piece
- Centre back/centre front
- Fold lines
- Balance marks (Matching points marked by notch)
- Marks or slots for fixing fittings and zips
- Grain lines (usually marked by arrow lines)
- Construction marks (these include darts, button holes, pocket placing pleats or punch holes
- Seam allowances
- Number of pieces to be cut (Mention if it is a single piece, a mirrored piece or a paired piece)
- Details of the raw materials (leather, lining, foam, reinforcement, etc.)

The details of different lines marked on front and back pattern is given below



1: Cutting line, 2: Stitching line, 3: Grain arrow, 4: Place on fold line, 5: Notches,
6: Circles and squares, 7: Lengthen and shorten line, 8: Fold line, 9: Button and buttonhole placements, 10: Dart placement, 11: Pocket placement, 12: Hemline.

During pattern making process the pattern master has to check and control the following points:

- All the pattern pieces required for a particular design should be there.
- All the pattern pieces should be according to the size specifications.
- The entire pattern must be aligned with fabric grain.
- Grain line should be parallel to the selvedge.
- Pattern pieces of different sizes should be correctly labeled in marker.

- Darts, notches, drill marks should be at correct location and distinct.
- While doing grading the increase or decrease in size should be proportionate according to the given size range.
- In the marker there should be enough space for knife movement for proper cutting.
- Patterns for checks and stripes should match properly.
- Patterns should not move from its position while marking the marker.
- Pattern lines should be defined properly (e.g. chalk too thick may lead to inaccurate cutting)

Self-Check -3	Written Test

Directions: Answer all the questions listed below.

1. What are pattern making process must be check and control?

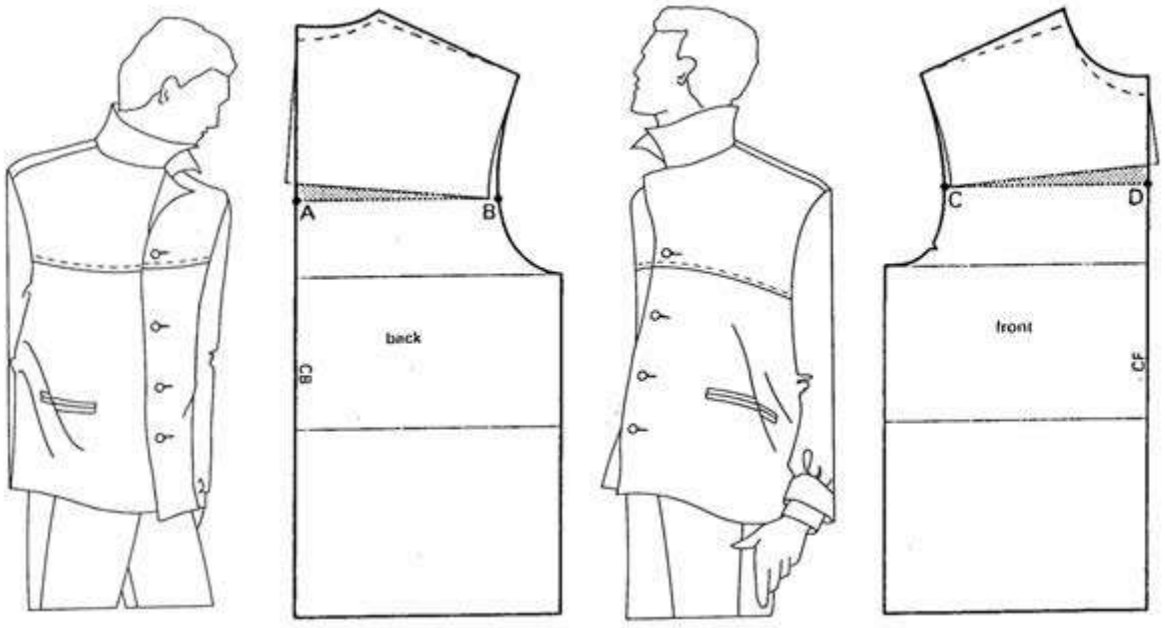
Information Sheet-3	Production faults relating to pattern or pattern information and specifications

In the manufacturing of leather garments the mistakes or faults made in the pattern making will seriously affect the production. Hence it is important to make the patterns accurately so that the production problems are eliminated at the root. The following section explains the possible production problems and how to correct the problems in the patterns

Balance Stance: (Forward & backward)

If the jacket fits well but the jacket rises at front or back because of the body stance (posture), make the following adaptations.

Forward Stance: Draw a line A-B at back pitch point; cut across this line, open a wedge at A. (Make sure neck point stays on vertical back line) Trace round new outline as shown.

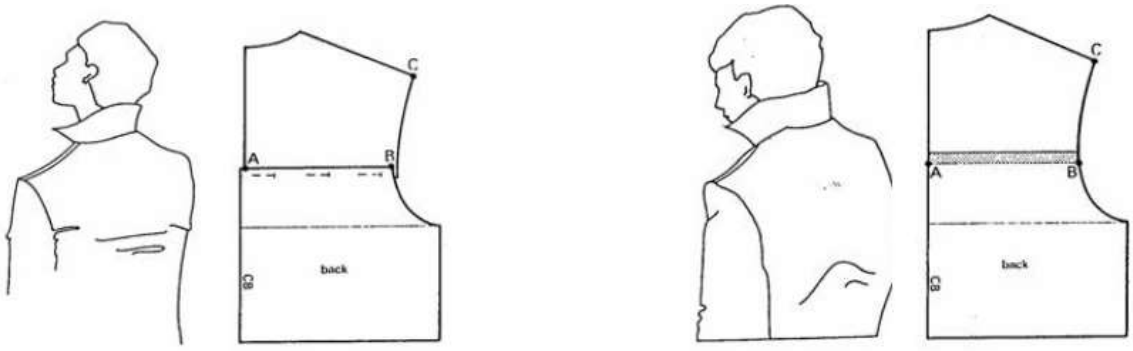


Forward stance **backward stance**

Backward Stance: Repeat as above by drawing line C-D at front.

Note: If the body is much stooped and the back requires being raised more than 1.5 cm, cut across the whole block on waistline, raise the already adapted block a further amount at back waistline. Trace round new outline as shown.

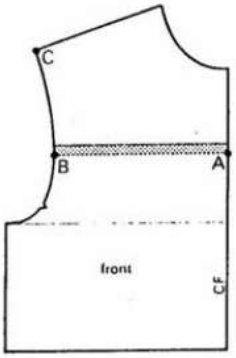
Short Back: Extra fullness appears across centre back. Draw a line A-B at cross back, mark C at shoulder, cut across line, overlap required amount. The sleeve head will have to be re-drafted to fit the length between B and C



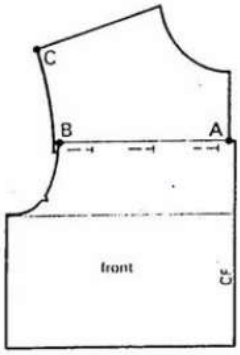
Short back **Long back**

Long Back: Jacket rises up because of an obvious rounded back. Draw a line A-B at cross back, cut across line and open the required amount. The sleeve head will have to be re-drafted to fit the length between B and C

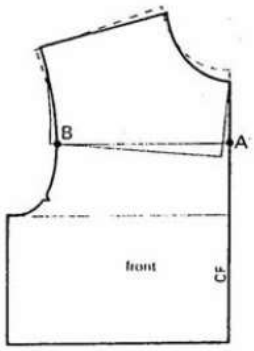
Long Chest & Short Chest: The same adaptations can be made 6 cm above front pitch point. The sleeve head will have to be re-drafted to fit the length between B and C



Long chest



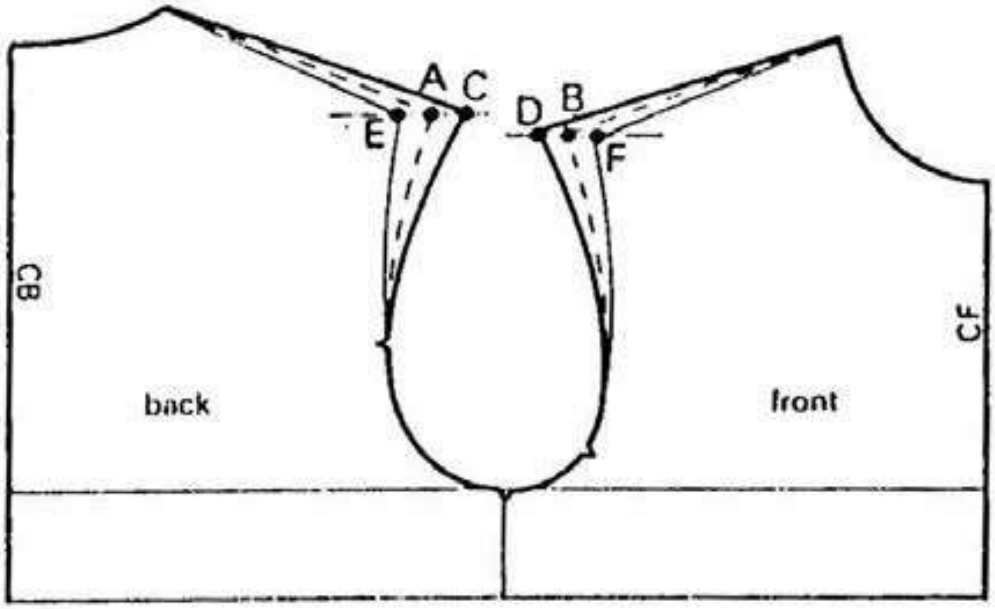
Short chest



Short chest (centre front)

Short Chest (at centre front only): Cut across the line A-B, overlap top section at A (make sure neck point touches centre front vertical line). Trace round new outline.

Wide or Narrow Shoulders:



If the shoulder measurement differs from the standard measurement for chest size, work out the difference. Mark A and B at shoulder points

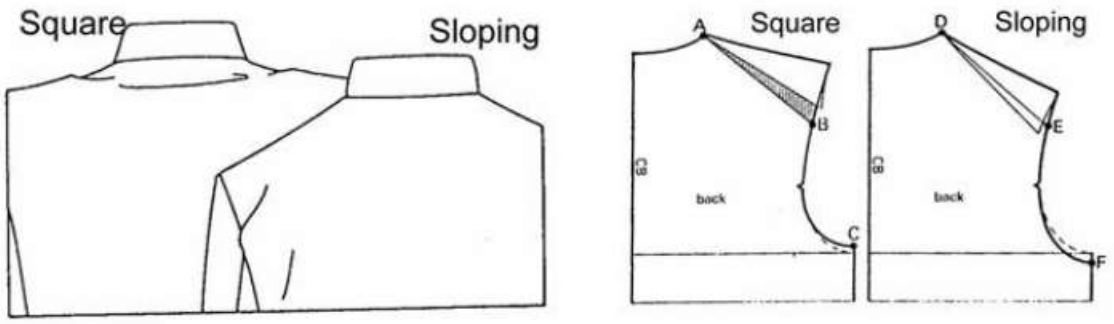
Draw horizontal lines through points A and B.

Wide shoulders: A - C and B - D = Shoulder difference; join C and D to neck points and armhole.

Narrow shoulders: A - E and B - F = shoulder difference; join E and F to neck points and armhole.

Square Shoulders: Horizontal strain lines appear below back neck. Cut across back shoulder from A-B. Open a wedge at B the required amount. Raise armhole at C so that armhole measurement remains the same. Repeat this operation on front shoulder.

Note: Many figures with square shoulders have well developed arms, in this case do not raise armhole but re-draft sleeve head to fit larger armhole.

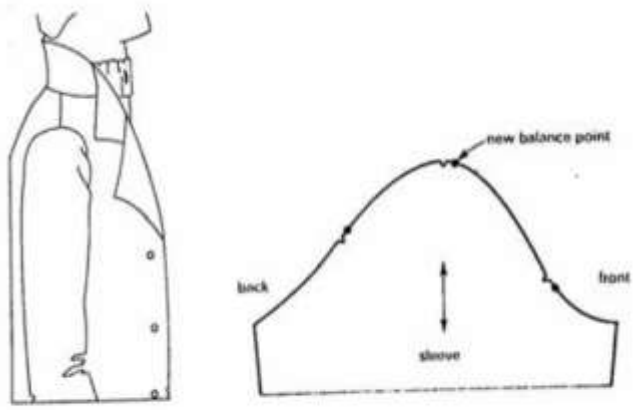


Square and sloping shoulders

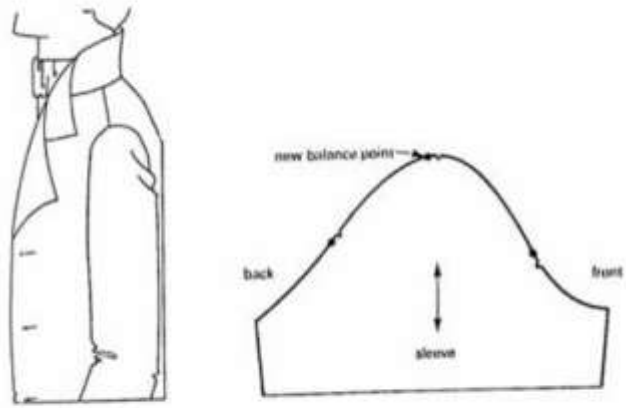
Sloping Shoulders: Diagonal lines drape at armhole. Cut across back shoulder from D-E overlap sections the required amount. Lower armhole at F so that armhole measurement remains the same. Repeat the operation on front shoulder.

Sleeve Pitch: The sleeve drags to left or to right. Remove sleeve from the garment and pin at the shoulder point so that the sleeve hangs correctly.

Remark balance points on sleeve this means that underarm seams of sleeve and body section will move out of line.



Sleeve pitch (Front)



Sleeve pitch (Back)

The following are faults related to pattern/ pattern information and specifications.

- Finished garment NOT to size- using wrong pattern
- Missed parts
- Wastage of fabric
- Mismatched pattern pieces e.g. side seam of the front panel NOT fit with side seam of the back panel
- Wrong marking e.g. drills/ pin hole is wrongly placed on the pattern
- Wrong grain line placed on the pattern.

Self-Check -4	Written Test

Directions: Answer all the questions listed below.

1. Write faults related to pattern information and specification

Information Sheet-4	OHS practices to prevent accidents and to eliminate risks to personal safety

1.4 **Following** OHS practices

During interpretation of pattern and applying pattern information, OHS practices should be followed and action is taken according to OHS practices to prevent accidents and to eliminate risks to personal safety. E.g.

- Pins should be placed on pin cushion,
- Tracing wheels should be placed in the right cabinet,
- Cutting equipments like paper scissor, hand shear, notcher and drill pins should be properly handled.

3.1 **OHS practices**

3.1.1 Manual handling techniques and safe materials handling

3.1.2 Standard operating procedures

3.1.3 Personal protective equipment

3.1.4 Ergonomic arrangement of workplaces

3.1.5 Housekeeping

3.1.6 Reporting accidents and incidents

Introduction

3.1 Definition of terms Occupational health and safety (OHS)

Occupation: "**Occupation"** is the kind of job a person performed at his or her place of work. These jobs are described in many ways. Some are patternmaking, sewing, finishing, etc.

3.1.1 **Standard operating safety procedures**

- Protection equipment: including personal protective equipment (PPE) for ears, eyes, face.
- Protective clothing,
- Protective shields and barriers shall be provided.
- Before doing work that requires the use of PPE, the trainee must be trained.

❖ When PPE is necessary:

- What type PPE is necessary
- How to properly done, doff, adjust and wear PPE
- The limitation of the PPE &
- The proper care, maintenance, useful life and disposal of the PPE

❖ Way to learn and understand safety

1) Accidental experience: experiences which were caused by accidents.
2) Safety education: a method which makes us aware of dangerous situations to avoid accident or injury.

3.1.2 Personal safety protective equipment

Personal safety protections include:

- Eye and face protection
- Hearing protection
- Respiratory protection
- Wearing apparel

3.1.3 Safe materials handling

- Keep the materials in well manner
- Use the material as enough as required.

3.1.4 Equipment/machine safety

- Every morning the trainees wipe and clean the equipments.
- After work, they have to wipe, clean and cover the equipments.

3.1.5 Personal responsibilities for safety

- Observe all, before, safety precautions related to your work.
- Report unsafe conditions or any equipment or materials you think might be unsafe.
- Warn others about the hazards.
- Report any injury or ill
- Wear protective clothing
- Be safety consuls
- Always inspect equipment and associated attachments for damage before using.

- Safety precautions concerning people
  - During working, wear appropriate protective clothing properly.
  - Never remove safety device or safety covers from equipment
  - Be careful of high clothes. Never touch switches with wet hands.

- When an accident occurs, it should be reported immediately to proper authority.

- Safety precautions concerning facilities
  - Facilities must be adequately illuminated, clean, neat and dry.
  - Keep the area organized so that there are no obstacles lying around the floor.
  - The equipment and floor should be free from dust and any chipping.
  - Work benches must be strong.

3.1.6 **Ergonomic arrangement of work place**

Ergonomic is a science which is used for arrange the work place.

Ergonomics on the hand:

- Combine all of the issues to improve workers efficiency and well being
- Maintain industrial production through the design of improved work places.

OHS & Ergonomics applications:

- to satisfy the needs of changing local people‘s attitudes.
- to change local work methods
- to change the traditional ways of doing things.

Therefore, OHS & Ergonomic applications are a major source of work place improvement.

3.1.7 **Material Handling**

Organization is the key to make quality and accurate patterns with a professional finish. This is especially important with your tools and equipment.

You do not need a lot of expensive equipment, but good tools, well organized and maintained, are very important.

As with any work shop, the secret of a good planning is to have everything you are likely to need within easy reach, with first priority for articles that are in constant use.

Have a WASTE BASKET handy, so that the floor is kept tidy and the work surface uncluttered with unwanted bits and pieces.

Working on the principle of “A PLACE FOR EVERYTHING, and EVERYTHING IN ITS PLACE”, you can adapt these ideas to suit the equipment you already have or can easily obtain.

Exercise: Practice the 5’S “Japanese housekeeping system” in your pattern making area.

Note that: 5’S means:

1. Seiri –sort
2. Seiton -systemize
3. Seiso - sweep
4. Seiketsu - standardize
5. Shitusuke – sustainable

3.1.8 **Pattern making Tools and Equipments**

The equipment you need for pattern making consists of:

- A tape measure,
- Pins,
- A tracing wheel,
- Medium-size scissors,
- A ruler at least 60 cm (24”) long,
- An L-square or a set square,
- An awl or stiletto,
- Tissue paper and Brown or white wrapping paper

Production documentation

Any change relative to pattern, pattern information and specifications should be amended, communicated and documented as early as possible before commencing production.

If changes are NOT documented, faults will arise in the production and incur extra cost.

For example: If you change the design of the prepared pattern, you should change the pattern as per the new design, communicate and document it properly as early as possible.

Self-Check -1	Written Test

Directions: Answer all the questions listed below.

1. What is “Occupation?**”**

2. What is Ergonomics?

3. Write two examples of **Personal safety**

4. Write two examples of **Equipment/ machine safety**

5. Write two examples of **Material safety**

6. What are the basic elements of a good housekeeping?

7. **What is**3S?

8. Write and define each S

9. What are the results of 3S?

10. What is OHS?

Self-Check -1	Written Test

Name: _____ **Date:** _____

Instructions:

Write all your answers in the provided answer sheet page 32

Directions: Answer all the questions listed below.

Part- A

Test I: Fill in the blanks: (5 * 1= 5)

1. The first step in _____ designing/development is the preparation of _____ block, which is used for all pattern adaptations

2. A good pattern maker must be aware of different types of _____ and their _____ in making different types of leather garments

3. The staff and employees having a considerable knowledge in leather parts from ---------- and ----------.

4. The quality of work depends on good work ---------- and----------.

5. Handling of ---------- materials such as adhesive, chemicals, spirits, rubber sheet etc are ----------.

PART- B

Test II: True or False: (5 * 1 = 5)

1. For ergonomics chairs should provide support for the upper part of the back.

2. Employers have a common duty to safeguard the safety and health at work of all their employees.

3. Working short hours continuously without any break causes fatigue as well as safety and health problems.

4. Wide enough for traffic movements, marked off by floor lines from work positions and storage areas.

5. Always carry around the knife with blade exposed, it could cause injury may be you and others.

PART- C (5 * 1 = 5)

Test III: Short Question Answers

1. The economy of leather garments depends upon pattern cutting, which determines-
    A. Value of production
    B. Reduce the production
    C. Cost of production
    D. Sum of production
2. What is the full form of OHS --

A. Occasional Hazard service
B. Occupational Health Standard
C. Organization Health Standard
D. Occupational Health and safety

3. There are three categories of quality cost that are identifiable ---
4. What are the incidents members often fail to complete Accident Book entries?
5. As Elements of Good Housekeeping, Storage should be --

Answer sheet

Name:_____ **Date:**_____

Test II. True or False

1. _____
2. _____
3._____
4._____
5._____

Test III: Short Question Answers

1. _____
2. _____
3._____
4._____
5._____

Note: Satisfactory rating = 8 and above;

Unsatisfactory rating = below 8 points.

You can ask your teacher to correct your work.

LAP Test — 1	Practical Demonstration Test

Name: _____ **Date:** _____

Time started: _____ **Time finished:** _____

Directions: Given the answer sheet and necessary tools carry out the following tasks.

Task 1: Mark all necessary patterns details on front and back patterns given.

Task 2: Mark all necessary pattern details on the sleeve and collar patterns.

Task 3: On the given pattern make the shoulder from narrow to wide.

Task 4: Demonstrate about good housekeeping practices.